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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/524,636	04/25/2006	Shigeki Inatomi	050080	1503
23850 7590 03/04/2008 KRATZ, QUINTOS & HANSON, LLP 1420 K Street, N.W. Suite 400 WASHINGTON, DC 20005				
EXAMINER				
HEINCE, LIAM J				
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/524,636

Applicant(s)

INATOMI ET AL.

Examiner

Liam J. Heincer

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 25 October 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-9 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SF/08)
Paper No(s)/Mail Date 2/2005 and 10/2007
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 2, and 4-7 are rejected under 35 U.S.C. 102(b) as being anticipated by Nakano et al. (US Pat. 4,876,324).

Considering Claims 1 and 6: Nakano et al. teaches a process for producing a phenolic novolak (1:23-25) comprising a step of conducting a heterogeneous reaction (6:24-40) of a phenol and aldehyde (1:23-25) in the presence of phosphoric acid (5:53-56) and an alcoholic or glycol based ether solvent (5:39-45). While the Office realizes that a heterogeneous reaction mixture is not desired by the reference, a heterogeneous reaction mixture is disclosed. Additionally, since a preferred embodiment contains up to 15 weight percent water (6:34-36) a heterogeneous reaction mixture would be present even in the preferred embodiment.

Considering Claim 2: Nakano et al. teaches the phosphoric acid as being present in an amount of 0.01 to 20 parts by weight per 100 parts by weight of the phenol (5:62-65).

Considering Claims 4 and 5: Nakano et al. teaches the cosolvent as being present in an amount of 150 to 300 parts by weight per 100 parts by weight of the phenol (5:49-51).

Considering Claim 7: Nakano et al. teaches the aldehyde as being used in an amount of 0.7 to 1.5 moles per mole of the phenol (5:32-34).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nakano et al. (US Pat. 4,876,324) as applied to claim 1 above.

Considering Claim 3: Nakano et al. teaches the method of claim 1 as shown above.

Nakano et al. does not teach the catalyst as being present in an amount of greater than 25 parts by weight. However, it is well known in the art to optimize result effective variables such as catalyst amount. It would have been obvious for a person having ordinary skill in the art at the time of invention to have optimize the amount of catalyst, and the motivation to do so would have been to increase the reaction rate, and therefore lower the amount of unreacted monomers. See MPEP § 2144.05.

Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nakano et al. (US Pat. 4,876,324) as applied to claim 1 above, and further in view of Helbing (WO 99/60043).

Considering Claim 8: Nakano et al. teaches the method of claim 1 as shown above.

Nakano et al. does not teach adding a surface active agent to the reaction mixture. However, Helbing teaches adding a surfactant to a reaction mixture comprising phenol and an aldehyde (7:19-25). Nakano et al. and Saito et al. are

combinable as they are concerned with a similar technical difficulty, namely producing condensation products of phenol and an aldehyde in solution. It would have been obvious to a person having ordinary skill in the art at the time of invention to have added the surfactant of Helbing to the reaction mixture of Nakano et al., and the motivation to do so would have been, as Helbing suggests, to prevent agglomeration of the reaction products (7:19-25).

Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nakano et al. (US Pat. 4,876,324) as applied to claim 1 above, and further in view of Saito et al. (US 2002/0091224).

Considering Claim 9: Nakano et al. teaches the method of claim 1 as shown above.

Nakano et al. does not teach the reaction being done at pressure. However, Saito et al. teaches performing novolak condensation reaction at a pressure of 0.01 to 0.15 MPa (¶0018). Nakano et al. and Saito et al. are combinable as they are concerned with the same field of endeavor, namely the production of novolak resins. It would have been obvious to a person having ordinary skill in the art at the time of invention to have performed the reaction of Nakano et al. at the pressure of Saito et al., and the motivation to do so would have been, as Saito et al. suggests, to provide a resin product at a high yield (¶0010).

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. See PTO form 892.

Double Patenting

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct

from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 1-7 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claim 1 of U.S. Patent No. 7,241,833 in view of Nakano et al. (US Pat. 4,876,324).

Considering Claim 1 and 4-6: Patent '833 teaches a process for producing a phenol novolak comprising conducting a heterogeneous reaction of a phenol and an aldehyde in the presence of a phosphoric acid (claim 1).

Patent '833 does not teach the reaction occurring in the presence of a cosolvent. However, Nakano et al. teaches a phenol novolak reaction occurring in the presence of water and an alcoholic or glycol based ether solvent (5:39-45 and 6:24-40) where the solvent is present in an amount of 150 to 300 parts by weight per 100 parts by weight of the phenol (5:49-51). Patent '833 and Nakano et al. are combinable as they are concerned with the same field of endeavor, namely the production of novlak resins with acidic catalysts. It would have been obvious to a person having ordinary skill in the art at the time of invention to have used the cosolvent of Nakano et al. in the process of

Patent '833 and the motivation to do so would have been, as Nakano et al. suggests, to increase the molecular weight of the product (6:24-40).

Considering Claims 2 and 3: Patent '833 teaches the phosphoric acid as being present in an amount greater than 25 parts by weight per 100 parts by weight of the phenol (claim 1).

Considering Claim 7: Nakano et al. teaches the aldehyde as being present in an amount of 0.40 to 0.93 moles per mole of phenol (claim 1).

Claim 8 is rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claim 1 of U.S. Patent No. 7,241,833 in view of Nakano et al. (US Pat. 4,876,324) and further in view of Helbing (WO 99/60043).

Considering Claim 8: Patent '833 teaches the method of claim 1 as shown above. Patent '833 does not teach adding a surface active agent to the reaction mixture. However, Helbing teaches adding a surfactant to a reaction mixture comprising phenol and an aldehyde (7:19-25). Patent '833 and Saito et al. are combinable as they are concerned with a similar technical difficulty, namely producing condensation products of phenol and an aldehyde in solution. It would have been obvious to a person having ordinary skill in the art at the time of invention to have added the surfactant of Helbing to the reaction mixture of Patent '833, and the motivation to do so would have been, as Helbing suggests, to prevent agglomeration of the reaction products (7:19-25).

Claim 9 is rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claim 1 of U.S. Patent No. 7,241,833 in view of Nakano et al. (US Pat. 4,876,324) and further in view of Saito et al. (US 2002/0091224).

Considering Claim 9: Patent '833 teaches the method of claim 1 as shown above.

Patent '833 does not teach the reaction being done at pressure. However, Saito et al. teaches performing novolak condensation reaction at a pressure of 0.01 to 0.15 MPa (¶0018). Patent '833 and Saito et al. are combinable as they are concerned with the same field of endeavor, namely the production of novolak resins. It would have been obvious to a person having ordinary skill in the art at the time of invention to have

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performed the reaction of Patent '833 at the pressure of Saito et al., and the motivation to do so would have been, as Saito et al. suggests, to provide a resin product at a high yield (¶0010).

Correspondence

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Liam J. Heincer whose telephone number is 571-270-3297. The examiner can normally be reached on Monday thru Friday 7:30 to 5:00 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Eashoo can be reached on 571-272-1197. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Mark Eashoo/

LJH

Supervisory Patent Examiner, Art Unit 1796

February 15, 2008

29-Feb-08